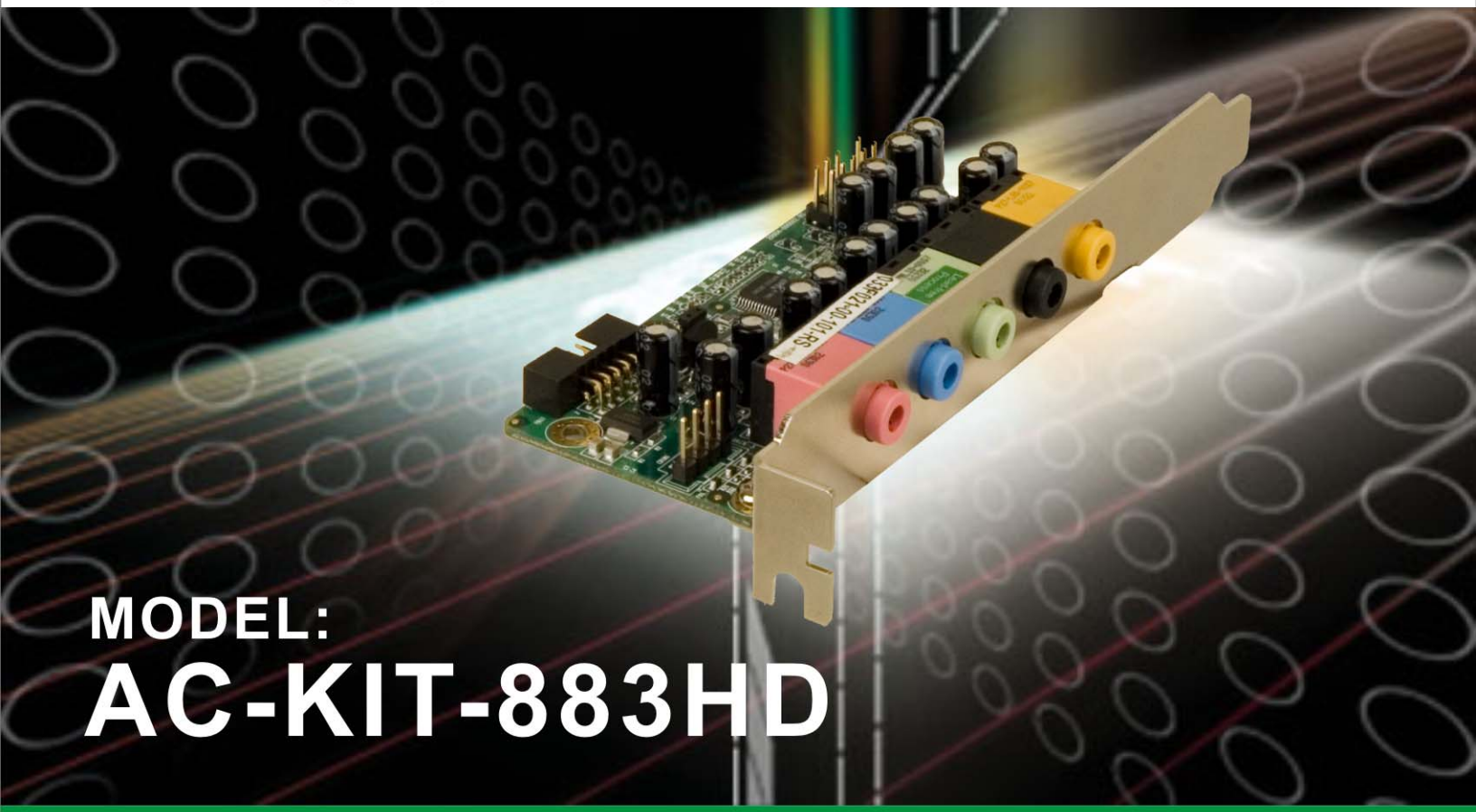
IEI Technology Corp.



MODEL:

AC-KIT-883HD

7.1High Definition Audio Module

with Dual Independent Audio Streams

User Manual

Rev. 1.0 December 2006

RoHS Lead Free

Revision

MODEL	AC-KIT-883HD Audio Module	
Revision Number	**Description**	**Date of Issue**
1.0	Initial release	December 2006

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Packing List

NOTE:

If any of the components listed in the checklist below are missing, please do not proceed with the installation. Contact the IEI reseller or vendor you purchased the AC-KIT-883HD audio module from or contact an IEI sales representative directly. To contact an IEI sales representative, please send an email to sales@iei.com.tw.

The items listed below should all be included in the AC-KIT-883HD audio module package.

- 1 x AC-KIT-883HD audio module c/w slot bracket
- 1 x 10-pin 2.00mm female end to10-pin 2.00mm female end connector cable
- 1 x Quick installation guide (QIG)
- 1 x Utility CD

Images of the above items are shown in **Chapter 3**.

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Chapter

1

Introduction

1.1 AC-KIT-883HD Audio Module Overview

The AC-KIT-883HD audio module is an audio interface card that with 7.1 surround sound and optional multi-streaming audio channel capabilities. The AC-KIT-883HD audio module features a performance Realtek ALC883 audio codec chip, five input/output audio jacks, direct CD in header connection and optional I/O KIT multi-streaming pin header connection. With IEI's leading-edge technology and professionalism in industrial computing, the AC-KIT-883HD audio module is designed with high stability and state-of-the-art functionality to fulfill your needs.

Figure 1-1 shows an overview of the AC-KIT-883HD audio module.

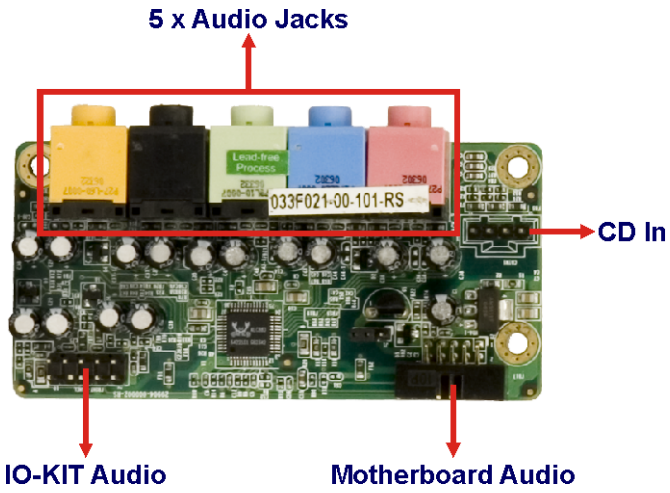

Figure 1-1: AC-KIT-883HD Audio Module Overview

1.2 Product Specifications

Product specifications are listed in the following sections.

1.2.1 Interface Specifications

The interface specifications are listed in **Table 1-1**.

Audio Input	**5 Audio jacks, CD pin header connectors on-board**

Table 1-1: Interface Specifications

1.2.2 Audio Processing

Table 1-2 lists the audio processing capabilities of the AC-KIT-883HD audio module.

Sampling Rate	DACs support 44.1k/48k/96k/192kHz ADCs support 44.1k/48k/96kHz 16/20/24-bit S/PDIF-OUT supports 44.1k/48k/96k/192kHz 16/20/24-bit S/PDIF-IN supports 44.1k/48k/96kHz

Table 1-2: Audio Processing Capabilities

1.2.3 Functionality

Table 1-3 lists the AC-KIT-883HD audio module functionality.

7.1 Surround Sound	Yes
2 multi-streaming channels	Yes (with optional IO-KIT-MULTI-ST card)

Table 1-3: Functionality

1.2.4 Software Support

Table 1-4 gives a brief description of the AC-KIT-883HD audio module driver.

Device Driver	Audio Driver for Windows 2000/XP

Table 1-4: Software Support

1.3 System Requirements

The system requirements for the AC-KIT-883HD audio module are listed below.

- X86 PC compatible computer
- Microsoft DirectX 9.0b (or above version) installed
- OS: Windows 2000 or Windows XP

1.4 Dimensions

The AC-KIT-883HD audio module dimensions are:

- Length: 83.82mm
- Width: 40.64mm
- Height: 11.5mm

The dimensions are shown in **Figure 1-2** below.

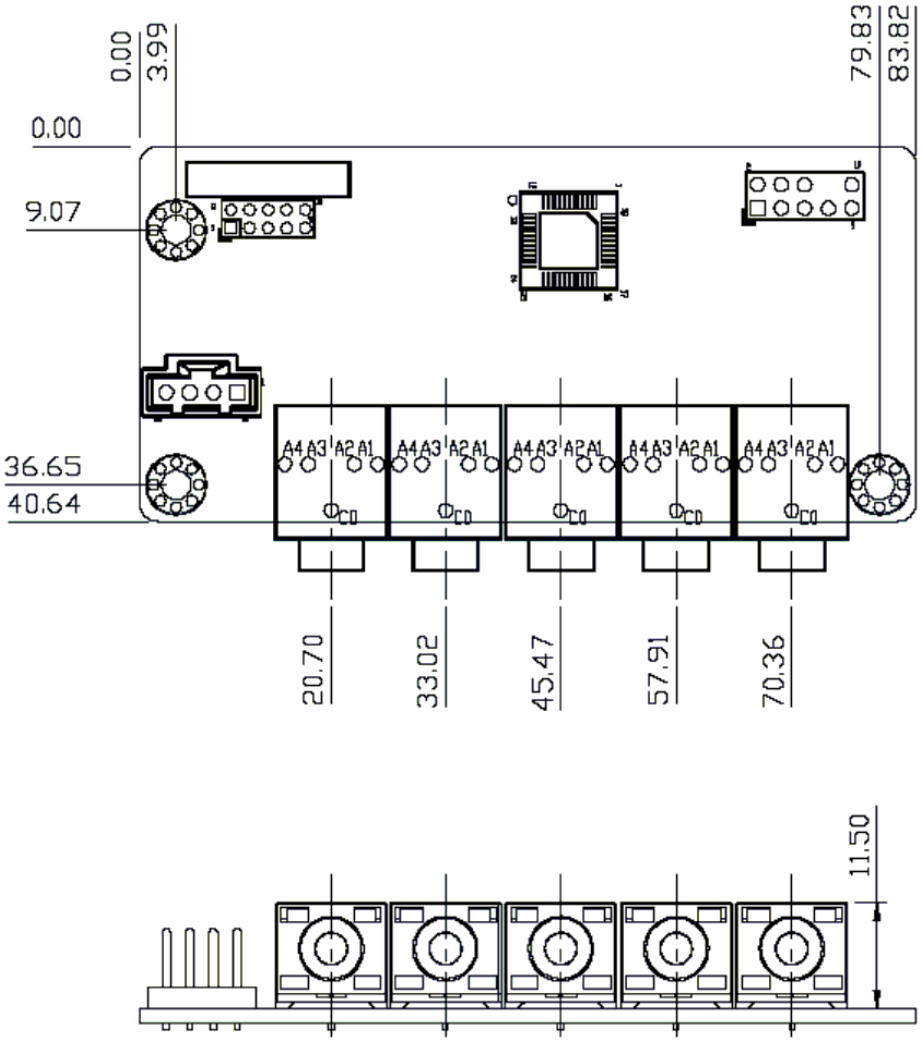

Figure 1-2:Module Dimensions (units: mm)

1.5 Realtek ALC883 Audio Codec

The ALC883 series 7.1+2 Channel High Definition Audio (HDA) codecs are compliant with Microsoft's UAA (Universal Audio Architecture). The ALC883 series provide 10 DAC channels that simultaneously support 7.1 sound playback, plus 2 channels of independent stereo sound output (multiple streaming) through the front panel stereo output. Flexible mixing, mute, and fine gain control functions provide a complete integrated audio solution for home entertainment PCs.

The ALC883 series also integrates two stereo ADCs that can support a stereo microphone with Acoustic Echo Cancellation (AEC), Beam Forming (BF), and Noise Suppression (NS) technology simultaneously.

All analog IOs are input and output capable, and headphone amplifiers are also integrated at each analog output. All analog IOs can be re-tasked according to user's definitions, or automatically switched depending on the connected device type.

The ALC883 series support 16/20/24 S/PDIF input and output to offer easy connection of PCs to high quality consumer electronic products such as digital decoders and speakers.

The ALC883 series support host/soft audio from the Intel ICH series chipset, and also from any other HDA compatible audio controller. With EAX/Direct Sound 3D/I3DL2/A3D compatibility, and excellent software utilities like Karaoke mode, environment emulation, software equalizer, HRTF 3D positional audio, and optional Dolby® Digital Live and DTS® Connect program, the ALC883 series provide an excellent entertainment package and game experience for PC users.

1.5.1 Features

- High-performance DACs with 95dB SNR (A-Weighting), ADCs with 85dB SNR (A-Weighting)
- Meets performance requirements for audio on PC2001 systems and Microsoft WLP 2.x
- Ten DAC channels support 16/20/24-bit PCM format for 7.1 sound playback, plus 2 channels of independent stereo sound output (multiple streaming)

through the front panel output

- 2 stereo ADCs support 16/20/24-bit PCM format, one for stereo microphone, the other for legacy mixer recording
- All DACs support 44.1k/48k/96k/192kHz sample rate
- All ADCs support 44.1k/48k/96kHz sample rate
- 16/20/24-bit S/PDIF-OUT supports 44.1k/48k/96k/192kHz sample rate
- 16/20/24-bit S/PDIF-IN supports 44.1k/48k/96kHz sample rate
- Up to four channels of microphone array input are supported for AEC/BF application
- High-quality analog differential CD input
- Supports external PCBEEP input and built-in digital BEEP generator
- Software selectable 2.5V/3.75V VREFOUT
- Two jack detection pins, each designed to detect up to 4 jacks
- Reserve analog mixer architecture for backward compatibility with AC'97
- Wide range (–80dB ~ +42dB) volume control with 1.5dB resolution of analog to analog mixer gain
- All analog jacks are stereo input and output re-tasking for analog plug & play
- Built-in headphone amplifiers for each re-tasking jack
- Pin compatible with the ALC880 and ALC882
- 48-pin LQFP 'Green' package
- Meets Microsoft WHQL/WLP 2.x audio requirements
- EAX™ 1.0 & 2.0 compatible
- Direct Sound 3D™ compatible
- A3D™ compatible
- I3DL2 compatible
- HRTF 3D Positional Audio
- Emulation of 26 sound environments to enhance gaming experience
- 10-Band Software Equalizer
- Voice Cancellation and Key Shifting in Karaoke mode
- Enhanced Configuration Panel to improve user experience
- Microphone Acoustic Echo Cancellation (AEC), Noise Suppression (NS), and Beam Forming (BF) technology for voice application
- ALC883D features optional Dolby® Digital Live output for consumer equipment
- ALC883DTS features optional DTS® Connect software

1.5.2 Applications

- Desktop multimedia PCs
- Entertainment PCs for digital home application
- Information appliances (IA), e.g., set-top-box

Chapter

2

Connectors

2.1 Peripheral Interface Connectors

Figure 2-1 shows the onboard peripheral connectors, external peripheral interface connectors and onboard jumper.

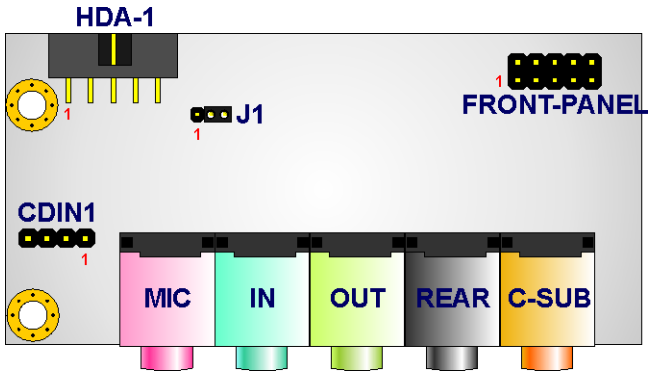

Figure 2-1: Connector Locations

2.1.1 Peripheral Interface Connectors

Table 2-1 shows a list of the peripheral interface connectors on the AC-KIT-883HD audio module. Detailed descriptions of these connectors can be found in the following sections.

Connector	Type	Label
Audio connector	10-pin box header	HDA-1
CD In connector	4-pin header	CDIN1
Front panel connector	10-pin header	FRONT-PANEL

Table 2-1: Peripheral Interface Connectors

2.1.2 Audio Connector

CN Label: **HAD-1**

CN Type: **10-pin box header (2x5 pins)**

CN Location: **See Figure 2-1 and Figure 2-2**

CN Pinouts: **See Table 2-2**

Use the audio connector to connect the module to a motherboard audio connector.

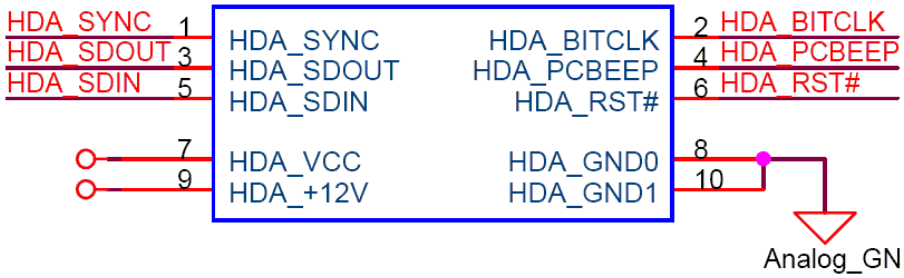

Figure 2-2: Audio Connector Schematic

PIN	DESCRIPTION	PIN	DESCRIPTION
1	HDA_SYNC	2	HDA_BITCLK
3	HDA_SDOUT	4	HDA_PCBEEP
5	HDA_SDIN	6	HDA_RST#
7	HDA_VCC	8	HDA_GND
9	HDA_+12V	10	HDA_GND

Table 2-2: Audio Connector Pinouts

2.1.3 CD In Connector

CN Label: **CDIN1**

CN Type: **4-pin header**

CN Location: **See Figure 2-1 and Figure 2-3**

CN Pinouts: **See Table 2-5**

Use the CD in connector to connect the module to a CD player.

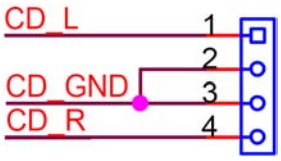

Figure 2-3: CD In Connector Schematic

PIN	DESCRIPTION
1	CD IN LEFT
2	CD-GND
3	CD-GND
4	CD IN RIGHT

Table 2-3: CD In Connector Pinouts

2.1.4 Front Panel Connector

CN Label: **FRONT-PANEL**

CN Type: **10-pin header (2x5 pins)**

CN Location: **See Figure 2-1 and Figure 2-4**

CN Pinouts: **See Table 2-6**

NOTE:

Do not connect the front panel connector to the any motherboard or chassis connectors.

The front panel connector is used to connect the module to IEI's optional **IO-KIT-MULTI-ST** audio module to enable multi-streaming audio.

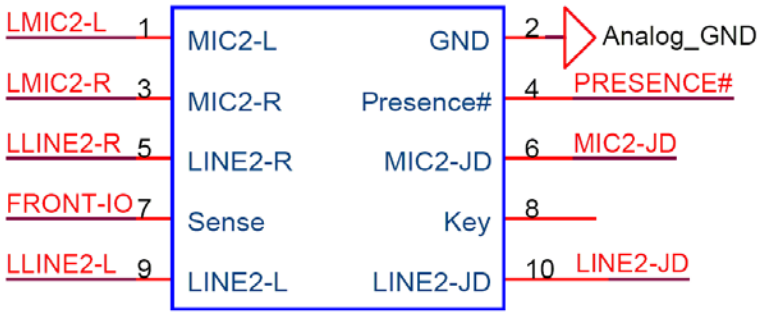

Figure 2-4: Front Panel Connector Schematic

PIN	DESCRIPTION	PIN	DESCRIPTION
1	MIC2_LEFT	2	GND
3	MIC2_RIGHT	4	Presence#
5	LINE 2_RIGHT	6	MIC2-JD
7	Sense	8	Key
9	LINE2_LEFT	10	LINE2-JD

Table 2-4: Front Panel Connector Pinouts

2.2 External Peripheral Interface Connectors

Table 2-5 lists the external peripheral interface connectors on the AC-KIT-883HD audio module and their functions.

Connector	Type	Label	Functions
Orange	Audio jack	C-SUB	Center/Subwoofer Out (Default), Line-in, Front-out, Rear-out and Side-out
Black	Audio jack	REAR	Rear-out (Default), Mic-in, Line-in, Center/Subwoofer Out, Front-out and Side-out
Pink	Audio jack	MIC	Mic-in (Default), Line-in and Front-out, Center/Subwoofer Out, Side-out and Rear-out
Blue	Audio jack	IN	Line-in (Default), Mic-in, Front-out, Center/Subwoofer Out, Side-out and Rear-out
Green	Audio jack	OUT	Front-out (Default), Line-in, Rear-out, Center/Subwoofer Out and Side-out

Table 2-5: External Peripheral Interface Connectors

Chapter

3

Installation

3.1 Anti-static Precautions

WARNING:

Failure to take ESD precautions during the installation of the AC-KIT-883HD audio module may result in permanent damage to the AC-KIT-883HD audio module and severe injury to the user.

Electrostatic discharge (ESD) can cause serious damage to electronic components, including the AC-KIT-883HD audio module. Dry climates are especially susceptible to ESD. It is therefore critical that whenever the AC-KIT-883HD audio module, or any other electrical component is handled, the following anti-static precautions are strictly adhered to.

- ***Wear an anti-static wristband***: - Wearing a simple anti-static wristband can help to prevent ESD from damaging the AC-KIT-883HD audio module.
- ***Self-grounding***:- Before handling the AC-KIT-883HD audio module touch any grounded conducting material. During the time the AC-KIT-883HD audio module is handled, frequently touch any conducting materials that are connected to the ground.
- ***Use an anti-static pad***: When configuring the AC-KIT-883HD audio module, place it on an antic-static pad. This reduces the possibility of ESD damaging the AC-KIT-883HD audio module.
- ***Only handle the edges of the PCB***: When handling the PCB, hold the PCB by the edges.

3.2 Installation Considerations

NOTE:

The following installation notices and installation considerations should be read and understood before the AC-KIT-883HD audio module is installed. All installation notices pertaining to the installation of the AC-KIT-883HD audio module should be strictly adhered to. Failing to adhere to these precautions may lead to severe damage of the AC-KIT-883HD audio module and injury to the person installing the motherboard.

3.2.1 Installation Notices

WARNING:

The installation instructions described in this manual should be carefully followed in order to prevent damage to the AC-KIT-883HD audio module, AC-KIT-883HD audio module components and injury to the user.

Before and during the installation please **DO** the following:

- **Read the user manual**:
  - The user manual provides a complete description of the AC-KIT-883HD audio module installation instructions and configuration options.
- **Wear an electrostatic discharge cuff (ESD)**:
  - Electronic components are easily damaged by ESD. Wearing an ESD cuff removes ESD from the body and helps prevent ESD damage.
- **Place the AC-KIT-883HD audio module on an antistatic pad**:
  - When installing or configuring the AC-KIT-883HD audio module, place it on an antistatic pad. This helps to prevent potential ESD damage.
- **Turn all power to the AC-KIT-883HD audio module off**:

- When working with the AC-KIT-883HD audio module, make sure that it is disconnected from all power supplies and that no electricity is being fed into the system.

Before and during the installation of the AC-KIT-883HD audio module, **DO NOT:**

- Remove any of the stickers on the PCB board. These stickers are required for warranty validation.
- Use the product before verifying all the cables and power connectors are properly connected.
- Allow screws to come in contact with the PCB circuit, connector pins, or its components.

3.3 Unpacking

3.3.1 Unpacking Checklist

NOTE:

If some of the components listed in the checklist below are missing, please do not proceed with the installation. Contact the IEI reseller or vendor you purchased the AC-KIT-883HD audio module from or contact an IEI sales representative directly. To contact an IEI sales representative, please send an email to sales@iei.com.tw.

When the AC-KIT-883HD audio module is received, make sure all the components listed below are present.

Quantity	Description	Image
1	AC-KIT-883HD audio module c/w slot bracket	

Quantity	Description	Image
1	10-pin 2.00mm female end to 10-pin 2.00mm female end connector cable	
1	Quick Installation Guide	
1	Utility CD	

Table 3-1: Packing List

3.4 Jumper Settings

NOTE:

A jumper is a metal bridge used to close an electrical circuit. It consists of two or three metal pins and a small metal clip (often protected by a plastic cover) that slides over the pins to connect them. To CLOSE/SHORT a jumper means connecting the pins of the jumper with the plastic clip and to OPEN a jumper means removing the plastic clip from a jumper.

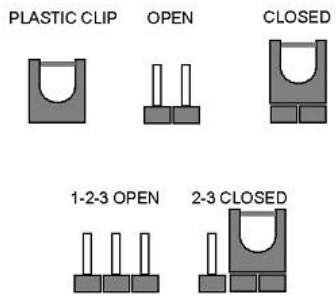

Figure 3-1: Jumper Locations

Table 3-2 lists the onboard jumper. A detailed description of this jumper can be found in Section 3.4.1.

Description	Type	Label
AVDD Power ON select	4-pin header	J1

Table 3-2: Onboard Jumper

3.4.1 AVDD Power ON Select Jumper

Jumper Label: **JP1**

Jumper Type: 3 pin header

Jumper Settings: See **Table 3-3**

Jumper Location: See **Figure 2-1**

This jumper allows the user to set the voltage for the audio module.

J1	DESCRIPTION
Short 1-2	Select AVDD Power by +5V
Short 2-3 (Default)	Select AVDD Power by +12V to +5V

Table 3-3: AVDD Power ON Select Jumper Settings

3.5 Chassis Installation

Follow the steps below to install the AC-KIT-883HD audio module into a chassis.

Step 1: Turn off and disconnect the system from all power sources.

Step 2: Open the chassis to expose the rear panel slots.

Step 3: Remove the slot cover bracket from an unused slot on the chassis rear panel by removing its retention screw.

Step 4: Insert the AC-KIT-883HD audio module into the unused slot.

Step 5: Secure the AC-KIT-883HD audio module to the chassis with the previously removed retention screw.

Step 6: Find the 10-pin 2.00mm female end to 10-pin 2.00mm female end cable that came with the AC-KIT-883HD audio module.

Step 7: Connect one end of the cable to the HAD-1 box header connector on the AC-KIT-883HD audio module.

Step 8: Connect the other end of the cable to the ten-pin audio connector on the system motherboard (see **Figure 3-2**).

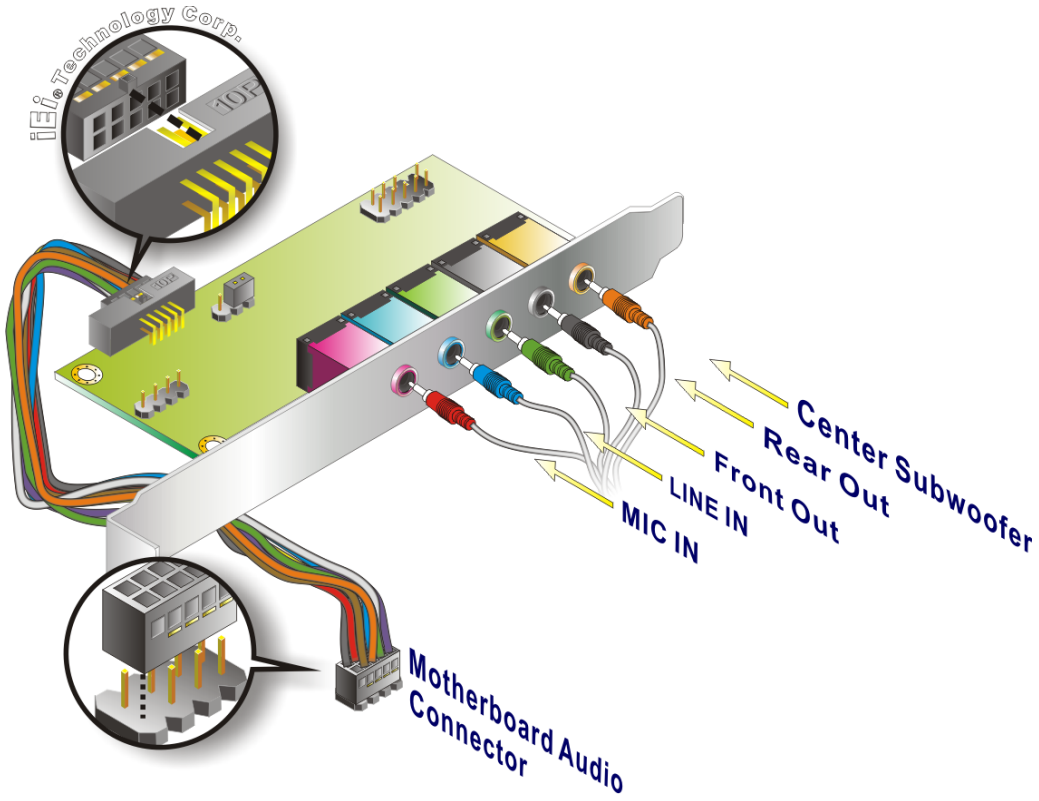

Figure 3-2: Connect Audio Module to Motherboard

Step 9: If applicable, connect the system CD drive to the CDIN1 4-pin header on the AC-KIT-883HD audio module (see **Figure 3-3**).

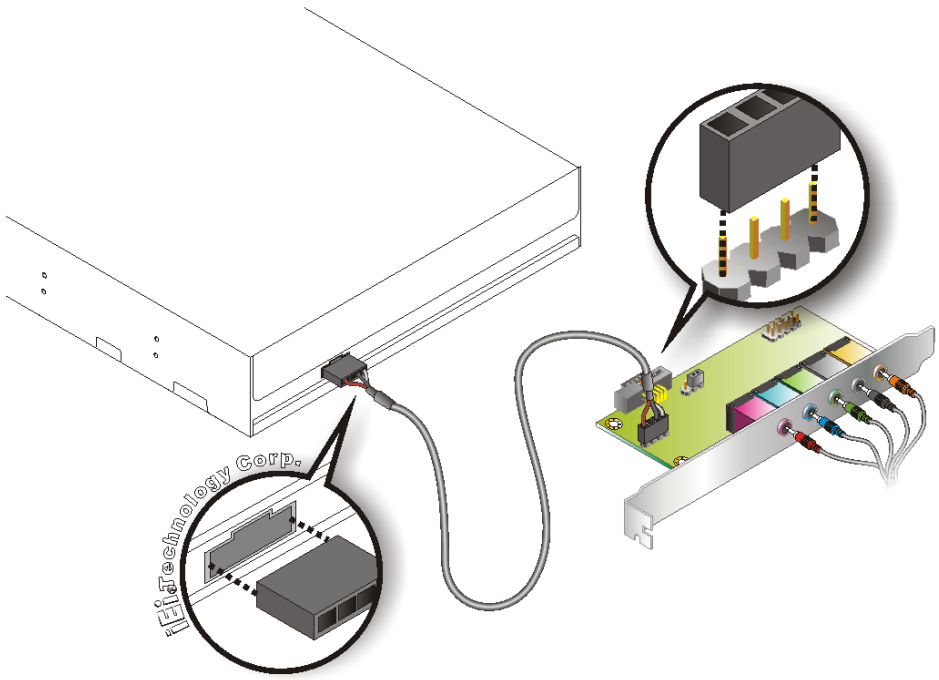

Figure 3-3: Connect Audio Module to CD

Step 10: Close the chassis, reconnect the power and turn on the system.

3.6 RealTek HD Audio Driver (ALC883) Installation

To install the Realtek High Definition (HD) Audio driver, please follow the steps below.

Step 1: Open **Windows Control Panel**.

Step 2: Double click the **System** icon.

Step 3: Double click the **Device Manager** tab.

Step 4: Double click the listed device that has question marks next to it. (This means Windows does not recognize the device).

Step 5: The **Device Driver Wizard** appears. Click **NEXT** to continue.

Step 6: Select "**Specify a Location**" in the **Locate Driver Files** window. Click **NEXT** to continue.

Step 7: Select "**X:\4-AUDIO\AC-KIT883HD\WIN**" directory in the location browsing window, where "**X:\"** is the system CD drive.

Step 8: Click **OK** to continue. The driver is installed.

Step 9: A confirmation screen offers the option of restarting the computer now or later. For the settings to take effect, the computer must be restarted. Click **FINISH** to restart the computer.

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Chapter

4

7.1 Surround Sound Configuration

4.1 Introduction

The AC-KIT-883HD audio module utilizes a Realtek ALC883 high definition audio chip and driver to achieve full 7.1 surround sound functionality.

4.2 Driver Installation

The following configuration assumes a Realtek ALC883 high definition audio driver has already been installed on the system. If a Realtek ALC883 high definition audio driver has not been installed on the system, please refer to **Section 3.6**

4.3 7.1 Surround Sound Configuration

4.3.1 Accessing the Sound Effects Manager

Follow the steps below to access the Realtek ALC883 **Sound Effects Manager**.

Step 1: Click either:

- The Sound Effect Manager icon in the Notification Area of the system task bar (**Figure 4-1**), or
- The Sound Effect Manager icon in the Control Panel.

Figure 4-1: Sound Effect Manager Icon [Task Bar]

Step 2: The sound effect manager appears (**Figure 4-2**).

Figure 4-2: Sound Effects Manager (ALC883)

4.3.2 7.1 Surround Sound Setup

Follow the steps below to set up the **Sound Effects Manager** for 7.1 surround sound.

Step 1: Click the **Audio I/O** tab.

Step 2: From the dropdown list box, select **8CH Speaker** (**Figure 4-3**).

Figure 4-3: 8 Channel Speaker Option

The following screen appears (**Figure 4-4**) showing the 7.1 surround sound speaker layout.

Figure 4-4: 7.1 Surround Sound Speaker Layout

4.3.3 Connect Devices to the Audio Module

The AC-KIT-883HD audio module has the ability to auto-detect devices plugged into the jacks. Also, each jack supports multiple kinds of input and output devices. Therefore, it is not always critical to note which kind of device should be plugged into any given jack.

NOTE:

Green and orange colored jacks do not support microphone functionality.

This section describes only one of many possible device configuration options to simulate the surround sound functionality of the audio module. Follow the steps below to connect devices to the audio module for surround sound.

Step 1: Connect the front speakers of a 7.1 surround sound system to the green audio jack of the AC-KIT-883HD audio module.

Step 2: The following screen appears (**Figure 4-5**) requesting identification of what was plugged into the jack.

Figure 4-5: Connected Device Screen

Step 3: Select **Line Out** as the device type and click **OK**.

Step 4: The following screen appears (**Figure 4-6**). In the **Analog Back Panel** section, there are left and right speaker icons with a green arrow pointing to the blue jack icon. This indicates that speakers have been plugged into the green jack. The blue jack icon is used to identify the green, pink and blue jacks of the audio module with the color of the arrow changing to suit the jack being used.

Figure 4-6: Front Speaker as Line Out

NOTE:

The pink and green jack icons in the **Front Panel** section of **Figure 4-6** are not the pink and green jacks of the AC-KIT-883HD audio module. These icons are identified with other jacks when using multi-streaming audio channels. Refer to **Section 5.3.4.2** for more information.

Step 5: Connect the side speakers of a 7.1 surround sound system to the blue audio jack of the AC-KIT-883HD audio module and select **Side Speaker Out** (see **Figure 4-5**) as the device type and click **OK**.

Step 6: The following screen appears (**Figure 4-7**). In the **Analog Back Panel** section, there are left and right speaker icons with a blue arrow pointing to the blue jack icon. This indicates that speakers have been plugged into the blue jack.

Figure 4-7: Side Speakers as Side Speaker Out

Step 7: Connect the rear speakers of a 7.1 surround sound system to the orange audio jack of the AC-KIT-883HD audio module and select **Rear Speaker Out** (see **Figure 4-5**) as the device type and click **OK**.

Step 8: Connect the center speakers of a 7.1 surround sound system to the black audio jack of the AC-KIT-883HD audio module and select **Center/Subwoofer Speaker Out** (see **Figure 4-5**) as the device type and click **OK**.

4.3.4 Testing Speaker Configuration

Follow the steps below to test that the speakers have been connected to the audio module and configured correctly.

Step 1: Click any speaker icon in the picture on the left of the Audio I/O tab. The driver generates a sound through the corresponding speaker connected to the audio module.

Step 2: Check the jack plug connections and speaker configurations if the speaker icon does not match the actual speaker.

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Chapter

5

Multi-Streaming Configuration

5.1 Introduction

With the use of IEI's optional IO-KIT-MULTI-ST audio module interfaced with the AC-KIT-883HD audio module, multi-streaming capabilities can be achieved with the system. Multi-streaming technology allows multiple devices to send audio signals over two distinct audio streams.

IEI's optional IO-KIT-MULTI-ST audio module must be interfaced with the AC-KIT-883HD audio module in order to utilize the multi-streaming function.

This chapter describes only one of many possible device configuration options when using the multi-streaming feature of the AC-KIT-883HD and IO-KIT-MULTI-ST audio modules.

5.2 Driver Installation

The following configuration assumes a Realtek ALC883 high definition audio driver has already been installed on the system. If a Realtek ALC883 high definition audio driver has not been installed on the system, please refer to **Section 3.6**

5.3 Interfacing the IO-KIT-MULTI-ST Audio Module

Follow the steps below to connect the IO-KIT-MULTI-ST audio module to the AC-KIT-883HD audio module.

Step 1: Install the IO-KIT-MULTI-ST audio module to the system chassis as described in steps 1 through 5 of **Section 3.5**.

Step 2: Find the cable that came with the IO-KIT-MULTI-ST audio module.

Step 3: Connect one end of the cable to the CN1 pin header connector on the IO-KIT-MULTI-ST audio module.

Step 4: Connect the other end of the cable to the FRONT-PANEL pin header on the AC-KIT-883HD audio module.

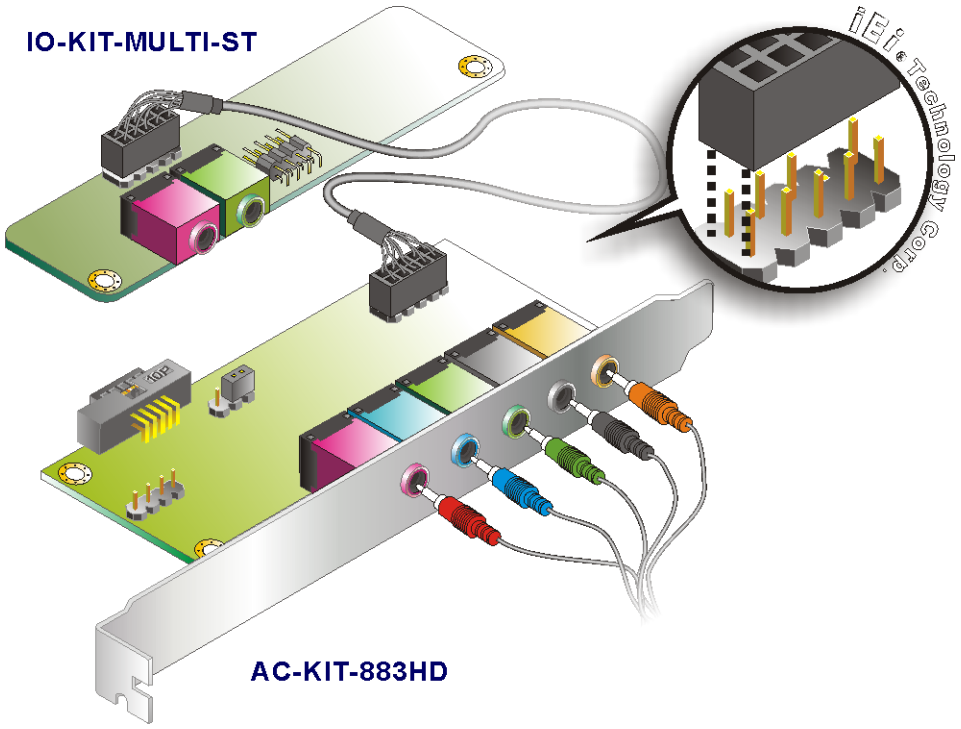

Figure 5-1: IO-KIT-MULTI-ST to AC-KIT-883HD Interface

Step 5: Close the chassis, reconnect the power and turn on the system.

5.4 Connect Devices to the Audio Modules

The following sections describe connecting audio input and output devices to the AC-KIT-883HD and IO-KIT-MULTI-ST audio modules.

5.4.1 AC-KIT-883HD Audio Module Device Connections

Refer to **Section 4.3.3** for a description of how to connect devices to the AC-KIT-883HD audio module.

5.4.2 IO-KIT-MULTI-ST Audio Module Device Connections

Follow the steps below to connect devices to the IO-KIT-MULTI-ST audio module.

Step 1: Connect speakers to the green audio jack of the IO-KIT-MULTI-ST audio module.

Step 2: The following screen appears (**Figure 5-10**) requesting identification of what was plugged into the jack.

Figure 5-2: Connected Device Screen

Step 3: Select **Line Out** as the device type and click **OK**.

Step 4: The following screen appears (**Figure 5-11**). In the **Analog Front Panel** section, the headphone icon next to the green arrow pointing to the green jack icon brightens, indicating that speakers have been plugged into the green jack.

Figure 5-3: IO-KIT Speaker as Line Out

Step 5: Connect a microphone to the pink audio jack of the IO-KIT-MULTI-ST audio module.

Step 6: The following screen appears (**Figure 5-12**) requesting identification of what was plugged into the jack.

Figure 5-4: Connected Device Screen

Step 7: Select **Mic In** as the device type and click **OK**.

Step 8: The following screen appears (**Figure 5-13**). In the **Analog Front Panel** section, the microphone icon next to the pink arrow pointing to the pink jack icon brightens, indicating that a microphone has been plugged into the pink jack.

Figure 5-5: IO-KIT Microphone as Mic In

5.5 Enable Multi-Streaming

Follow the steps below to enable multi-streaming functionality with the audio modules.

Step 1: Click the **Mixer** tab.

Step 2: Select the **Playback Mixer Toolbox** (**Figure 5-4**).

Figure 5-6: Access Playback Multi-streaming

Step 3: From the **Playback Mixer Toolbox** screen, check the **Enable playback multi-streaming** checkbox (**Figure 5-5**) and click **OK**.

Figure 5-7: Enable Playback Multi-streaming

Step 4: The **New Device Reminder** screen appears (**Figure 5-6**). Click **OK**.

A new playback or recording device has been created or disabled, and Windows OS might stop current playback activity. If you can't hear the sound that you were playing, please stop the application and restart it again.
Don't remind me next time.
OK
Cancel

Figure 5-8: New Device Reminder

Step 5: Select the **Record Mixer Toolbox** (**Figure 5-7**).

Figure 5-9: Access Record Multi-streaming

Step 6: From the **Record Mixer Toolbox** screen, check the **Enable recording multi-streaming** checkbox (**Figure 5-8**) and click **OK**.

Figure 5-10: Enable Recording Multi-streaming

Step 7: The **New Device Reminder** screen appears (**Figure 5-9**). Click **OK**.

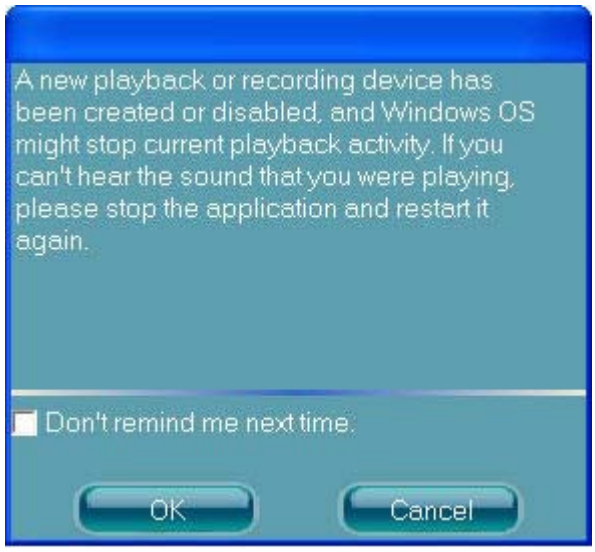
A new playback or recording device has been created or disabled, and Windows OS might stop current playback activity. If you can't hear the sound that you were playing, please stop the application and restart it again.
Don't remind me next time.
OK
Cancel

Figure 5-11: New Device Reminder

5.6 Mute Playback Devices

Playback devices must be muted when using the multi-streaming function. Follow the steps below to mute the playback devices.

Step 1: Click the **Mixer** tab.

Step 2: In the **Playback** section, select **Realtek HD Audio output** as the default playback device (**Figure 5-12**).

Figure 5-12: Setting the Default Playback Device

Step 3: Mute all the input devices in the **Playback** section (**Figure 5-13**).

REALTEK
Sound Effect
Mixer
Audio I/O
Microphone
3D Audio Demo
Playback
Realtek HD Audio output
Rear Black In
Rear Green In
CD Volume
Record
Realtek HDA Primary input
CD Volume
Stereo Mix
OK

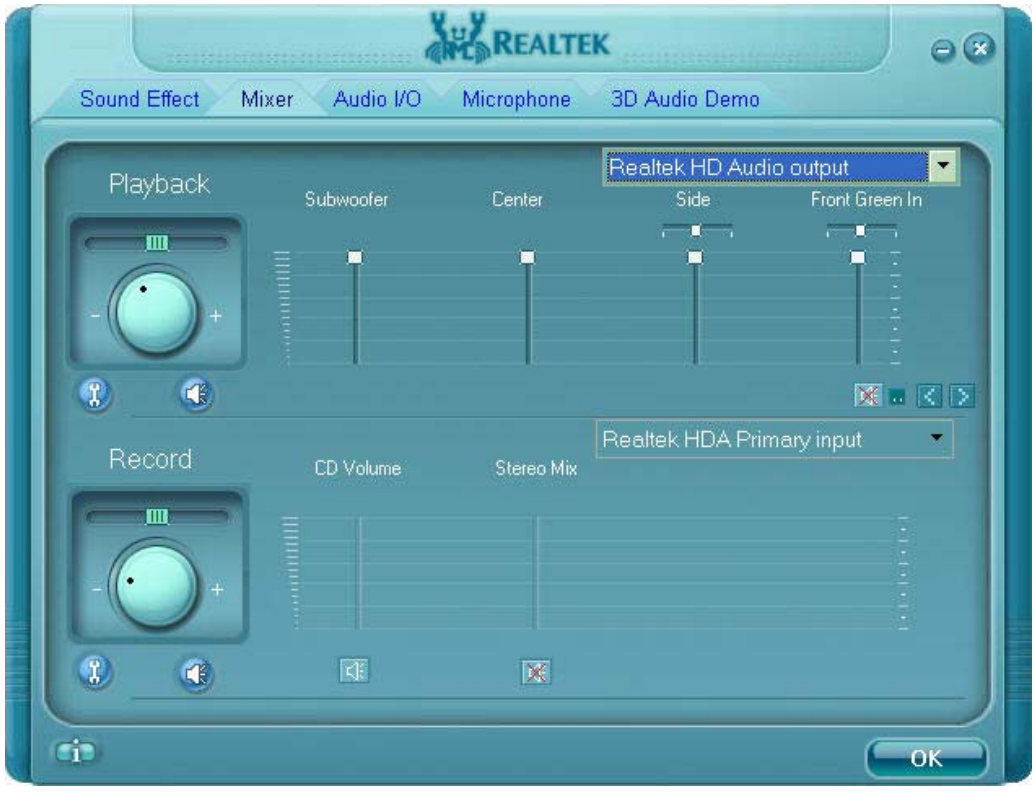
REALTEK
Sound Effect
Mixer
Audio I/O
Microphone
3D Audio Demo
Playback
Realtek HD Audio output
Subwoofer
Center
Side
Front Green In
Record
Realtek HDA Primary input
CD Volume
Stereo Mix
OK

Figure 5-13: Mute All Playback Devices

5.7 Initiate Multi-streaming Applications

The following sections describe how to initiate and set up two applications on independent audio streams.

5.7.1 Primary Audio Streaming Application

This section describes the set up and configuration of Windows Media Player as the system's primary audio stream and assumes Windows Media Player is preinstalled on the system.

Step 1: Start **Windows Media Player**.

Step 2: Select **Options** from the **Tools** menu, (**Figure 5-14**).

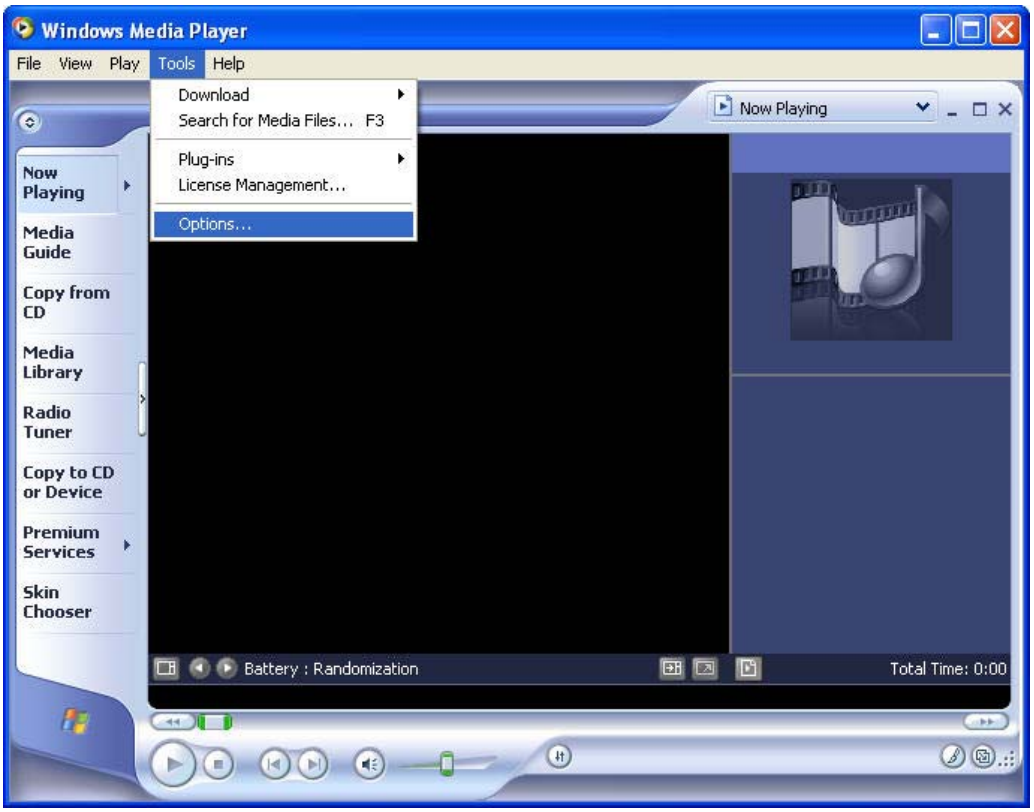

Figure 5-14: Windows Media Player Tools Menu

Step 3: Click the **Device** tab in the **Options** window (**Figure 5-15**).

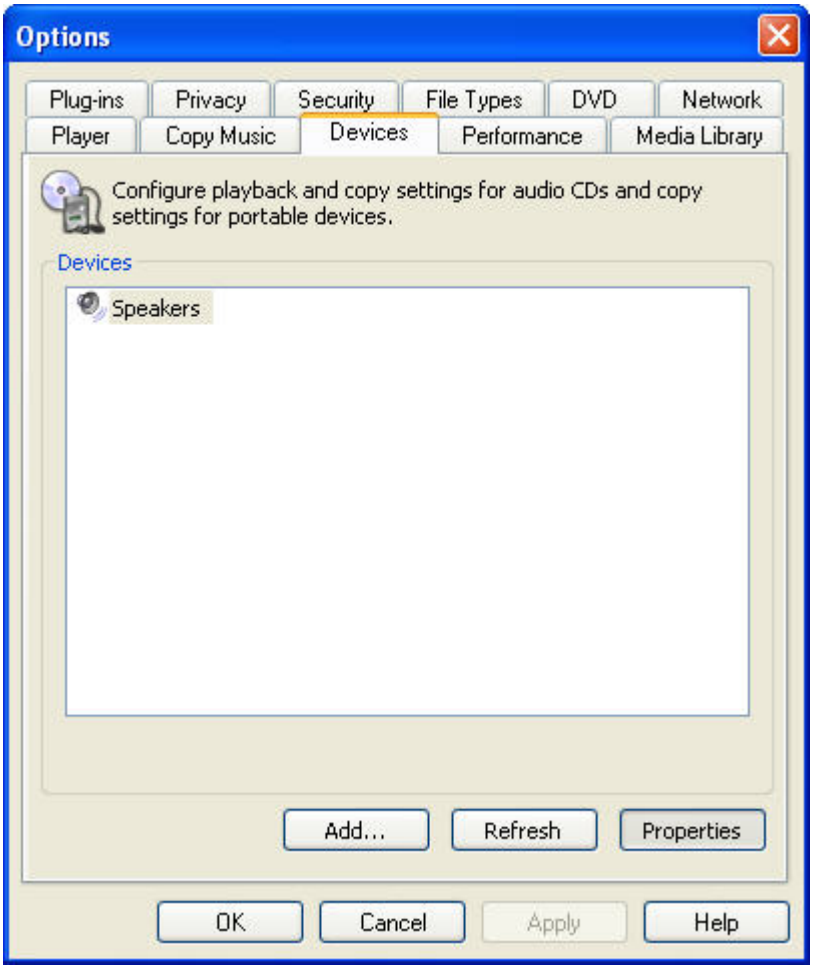

Figure 5-15: Windows Media Player Devices

Step 4: From the **Devices** list, select **Speakers** and click **Properties**.

Step 5: In the **Speaker Properties** window, select **DirectSound: Realtek HD Audio Output** as the audio device to use and click **OK** (**Figure 5-16**).

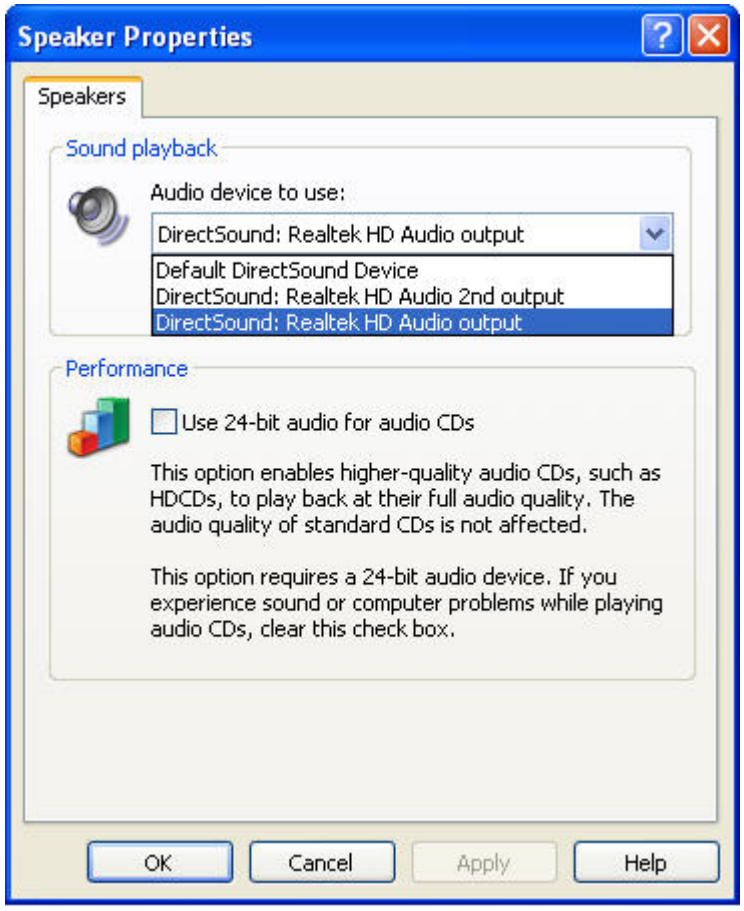
Speaker Properties
Speakers
Sound playback
Audio device to use:
DirectSound: Realtek HD Audio output
Default DirectSound Device
DirectSound: Realtek HD Audio 2nd output
DirectSound: Realtek HD Audio output
Performance
Use 24-bit audio for audio CDs
This option enables higher-quality audio CDs, such as HDCDs, to play back at their full audio quality. The audio quality of standard CDs is not affected.
This option requires a 24-bit audio device. If you experience sound or computer problems while playing audio CDs, clear this check box.
OK
Cancel
Apply
Help

Figure 5-16: Windows Media Player Speaker Options

Step 6: Click **OK** in the **Options** window.

Step 7: For the new speaker options to take effect, **Windows Media Player** must be closed.

Step 8: Restart **Windows Media Player**.

Step 9: Open any media file in **Windows Media Player**. The sounds from the media file should be heard through the speakers connected to the system.

5.7.2 Secondary Audio Streaming Application

This section describes the set up and configuration of Skype as the system's secondary audio stream and assumes Skype is preinstalled on the system.

Step 1: Start **Skype**.

Step 2: Select **Options** from the **Tools** menu (**Figure 5-17**).

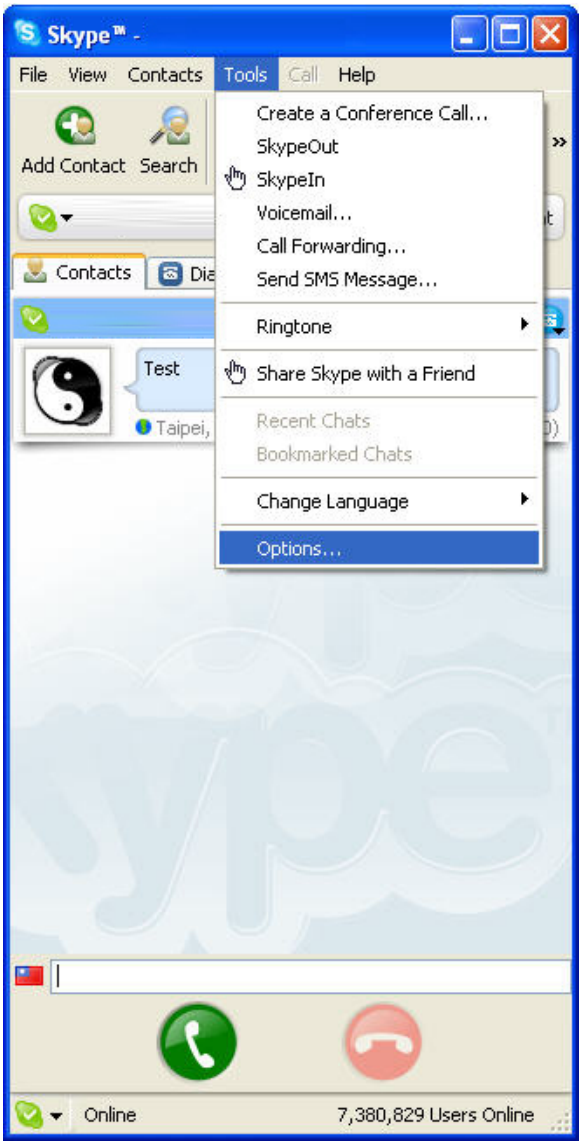

Figure 5-17: Skype Tools Menu

Step 3: The **Options** window appears (**Figure 5-18**).

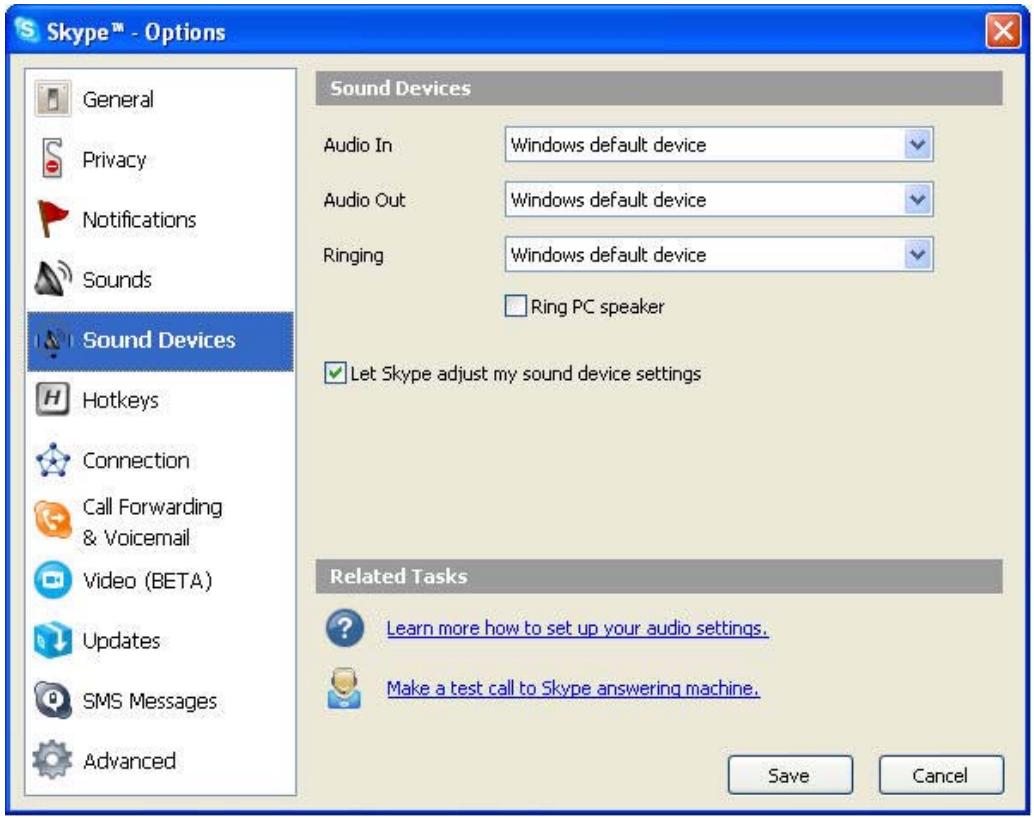

Figure 5-18: Skype Options Window

Step 4: Click the **Sound Devices** item in the **Options** window.

Step 5: For the **Audio In** device, select **Mic in at front panel (Pink)** from the dropdown list (**Figure 5-19**).

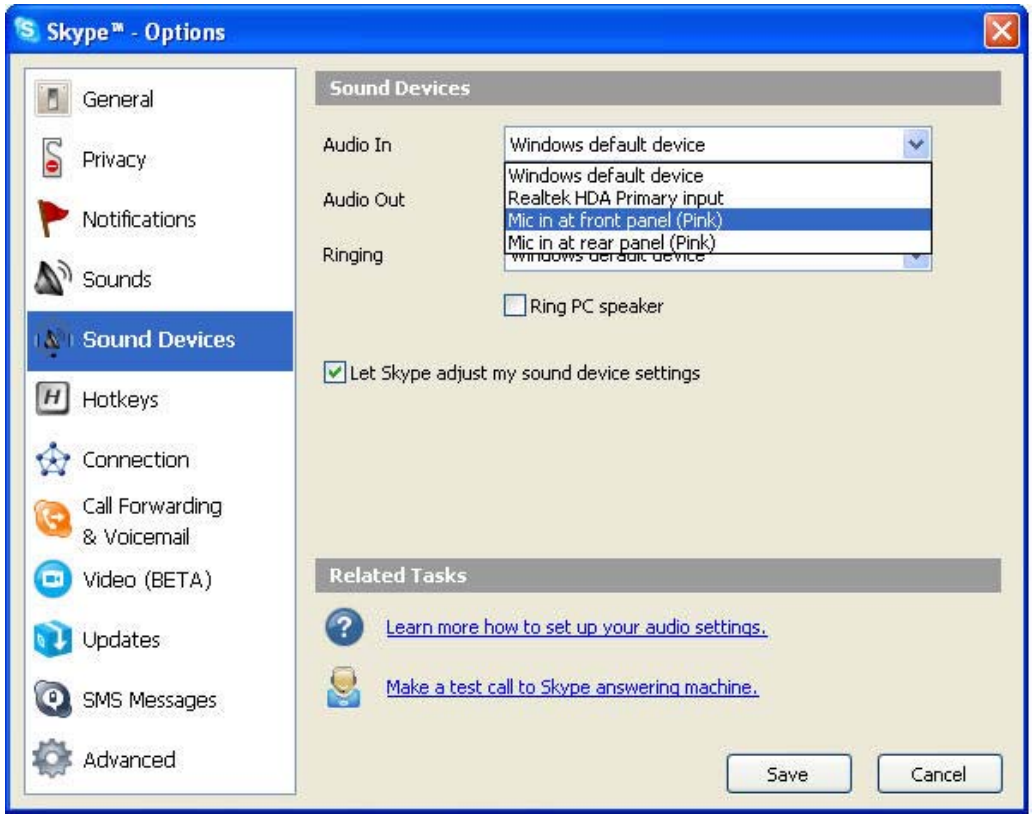

Figure 5-19: Skype Audio In Device

Step 6: For the **Audio Out** device, select **Realtek HD Audio 2nd output** from the dropdown list (**Figure 5-20**).

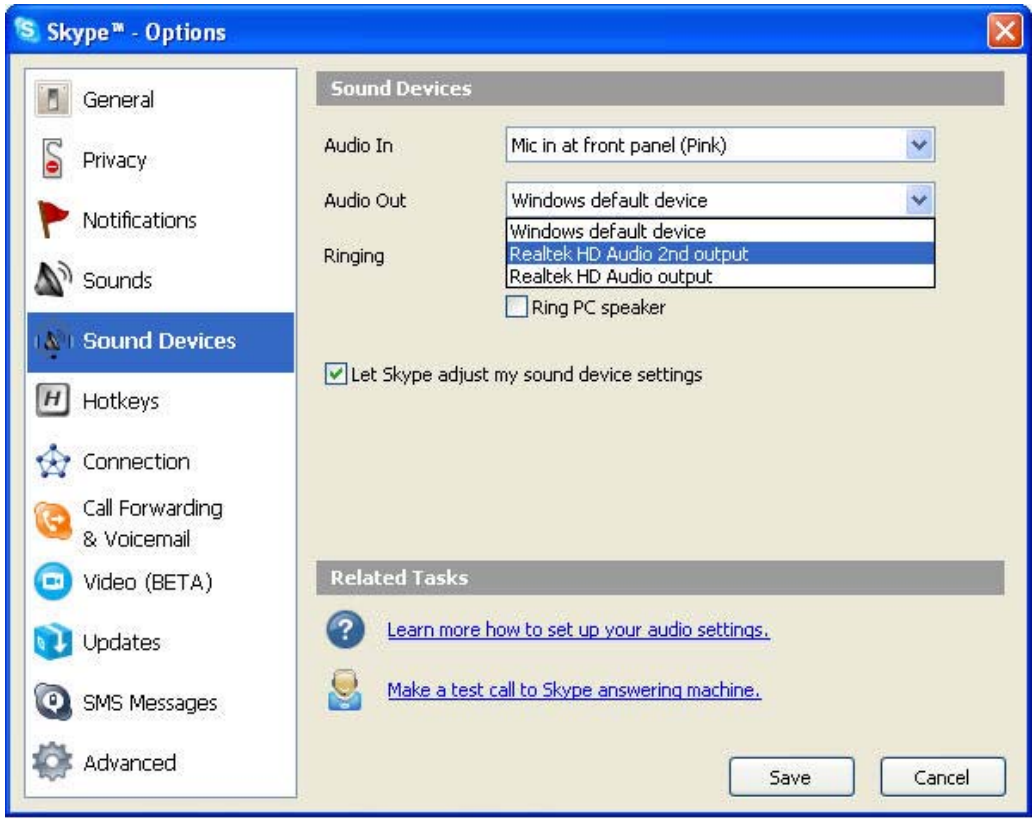

Figure 5-20: Skype Audio Out Device

Step 7: For the **Ringing** device, select **Realtek HD Audio 2nd output** from the dropdown list (**Figure 5-21**).

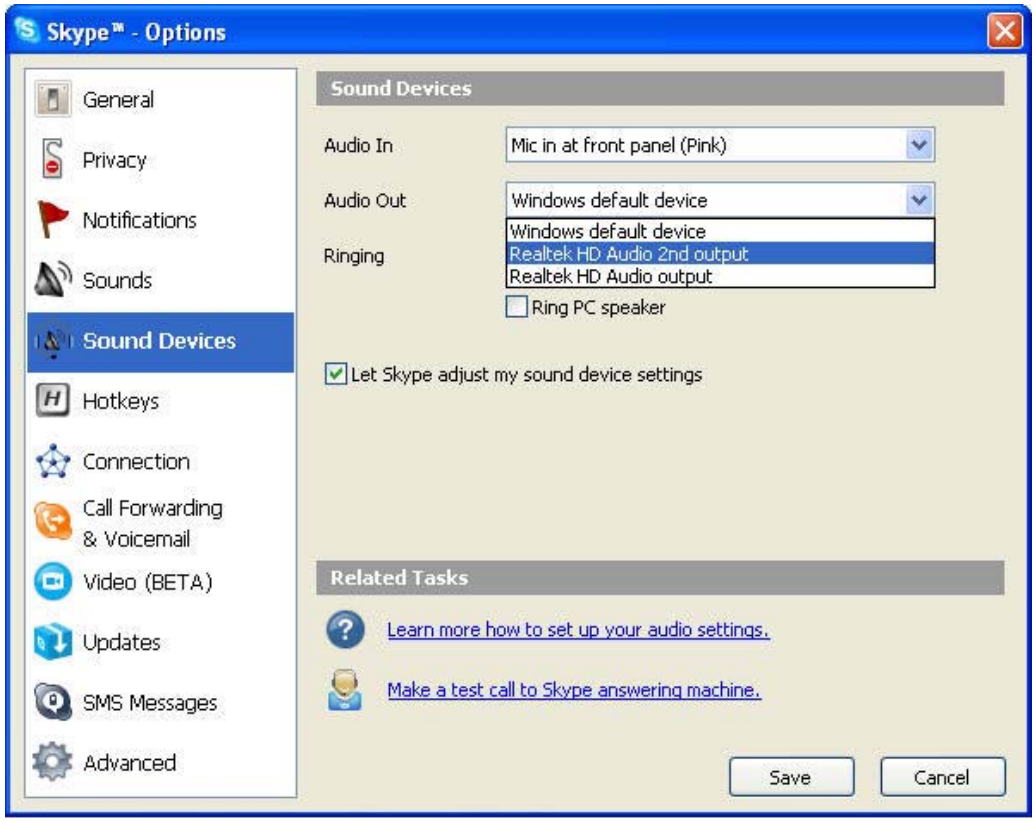

Figure 5-21: Skype Ringing Device

Step 8: Click **Save**.

Step 9: In the **Skype** main window, start a call (**Figure 5-22**). The conversation is channeled through the secondary audio stream.

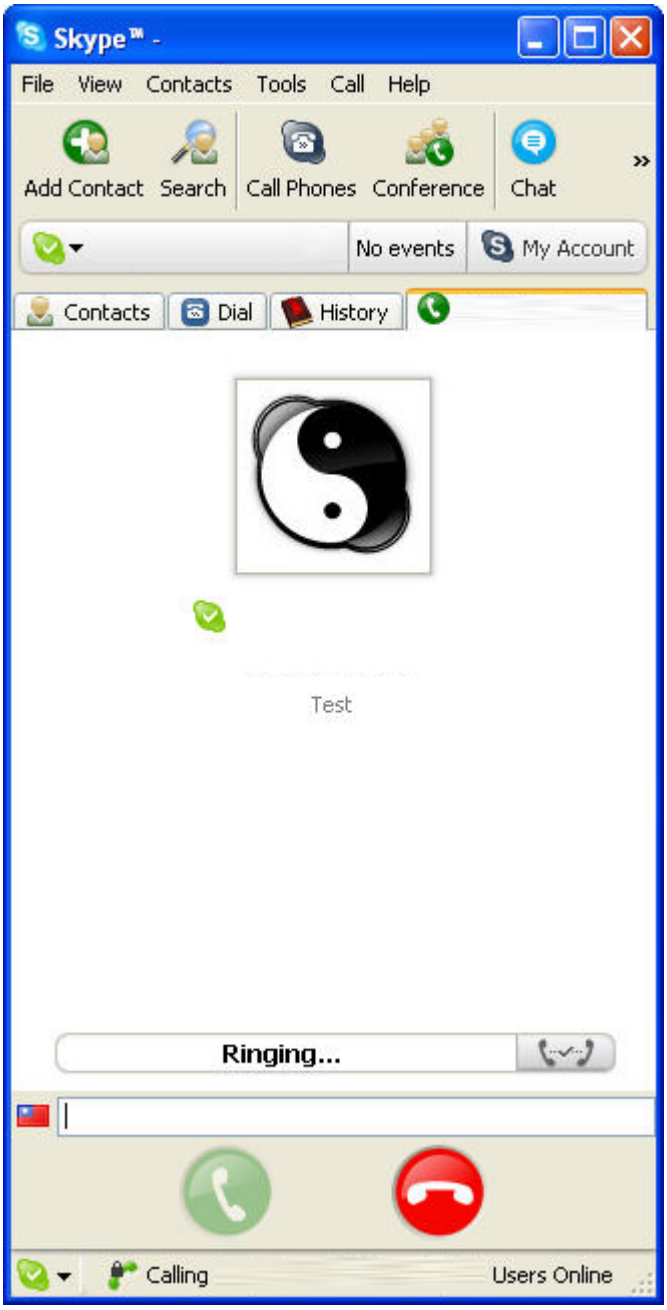

Figure 5-22: Skype Call

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